

## II. AMENDMENTS TO THE CLAIMS:

Please cancel claims 2-4 and 8 without prejudice. Kindly amend claims 1, 5, 6 and 7 as follows.

The following Listing of Claims replaces all prior listings, or versions, of claims in the above-captioned application.

### Listing of Claims:

1. (Currently Amended) A gas supply facility for a chamber, wherein the gas supply facility comprises~~comprising~~:

(a) a chamber exhausted by a vacuum pump,

(b) a plurality of first pressure type flow controller controlling a small flow quantity corresponding to 10% of a maximum flow rate of the gas supply facility to the chamber;

(b) a second pressure type flow controller controlling a large flow quantity corresponding to 90% of the maximum flow rate of the gas supply facility to the chamber, wherein the second pressure type flow controller is~~controllers~~ connected in parallel with the first pressure type flow controller;

(c) a third controller operably connected to control the operation of the first~~an~~ aforementioned plurality of pressure type flow controller and the second pressure type flow controller~~controllers~~; and

~~a chamber exhausted by a vacuum pump, wherein~~

the first pressure type flow rate-controller and the second pressure type flow controller each comprises

i. an orifice;

ii. a pressure detector provided on an upstream side of the orifice;

\_\_\_\_\_ iii. a control valve provided on an upstream side of the pressure detector; and

\_\_\_\_\_ iv. a computation control part ~~that computes~~ ~~where with~~ a gas flow rate  $Q_c$  of gas passing through the orifice ~~using~~ ~~is computed with~~ pressure  $P_1$  detected by the pressure detector ~~and~~ using a formula  $Q_c = KP_1$  (where  $K$  is constant), ~~so that~~ and a difference  $Q_y$  with ~~the~~ set flow rate  $Q_s$  is ~~outputted as a driving signal~~ output to ~~the~~ control valve ~~so that a~~ as a driving signal, thereby maintaining the ratio  $P_1/P_2$ , of a pressure  $P_1$  on the upstream side of the orifice and a pressure  $P_2$  on the downstream side ~~of the orifice is maintained at~~ as approximately two or more, ~~wherein and also allows accurate flow control over a wide flow rate range is achieved because the first~~ by making one of the pressure type flow controller controls the small flow quantity ~~controllers to be a controller to control the gas flow rate range up to 10% of the maximum flow rate to be supplied to the chamber, while the second remaining pressure type flow controller controls the large flow quantity gas flow rate range of about 10-100% of the maximum flow rate supplied to the chamber; and~~

\_\_\_\_\_ wherein the third controller comprises

\_\_\_\_\_ i. an input setting part that sets flow rate of gas supplied to the chamber; and

\_\_\_\_\_ ii. a signal conversion part;

\_\_\_\_\_ wherein the first pressure type flow controller is initially operated to control small flow quantity and when flow rate reaches 10% of the maximum flow rate the second pressure type flow controller is switched into operation, wherein first control signals for both the first pressure type flow controller and the second pressure type flow controller are provided by a signal conversion part thereby enabling accurate flow rate control over a wide flow rate range by remitting first control signals from

the signal conversion part to the first pressure type flow controller and the second pressure type flow controller~~controller(s) comprise controller(s) to control the rest of the gas flow rate range.~~

Claims 2 to 4 have been cancelled.

5. (Currently Amended) A gas supply facility ~~to a chamber as claimed in Claim 1,~~ further comprising:

(e) a rising rate setting mechanism operably connected to remit second~~control signals to be remitted to the first~~said pressure type flow controller and the second pressure type flow controller so as to control a large flow range~~controllers allotted for all the flow rate ranges of the flow controllers, and said second pressure type flow controller controlling the large flow quantity~~supplies~~controllers supply the set flow rate of gas after a specified lapse of time following the remittance of the second~~as~~forementioned control signals.~~

6. (Currently Amended) A method for internal pressure control of a chamber, the method comprising the steps of:

(a) continuously operating a vacuum pump to decompress, through an exhaust line equipped with a conductance valve, a chamber supplied with a gas from a gas supply facility equipped with a first pressure type flow controller controlling a small flow quantity corresponding to 10% of a maximum flow rate of the gas supply facility to the chamber and a second pressure type flow controller controlling a large flow quantity corresponding to 90% of the maximum flow rate of the gas supply facility to the chamber, wherein the second pressure type flow controller is connected in parallel with the first pressure type flow

controller, and the first pressure type flow controller and the second pressure type flow controller each comprises

- i. an orifice;
- ii. a pressure detector provided on an upstream side of the orifice;
- iii. a control valve provided on an upstream side of the pressure detector; and
- iv. a computation control part that computes a first gas flow rate  $Q_c$  of gas passing through the orifice using pressure  $P_1$  detected by the pressure detector and using formula  $Q_c = KP_1$ , where  $K$  is constant, so that a difference  $Q_y$  with a set flow rate  $Q_s$  is outputted as a driving signal to the control valve so that a ratio  $P_1/P_2$  of pressure  $P_1$  on the upstream side of the orifice and pressure  $P_2$  on the downstream side of the orifice is maintained at approximately two or more;

(b) determining a relationship between a gas supply flow rate and an internal pressure of the chamber at both a maximum degree and a minimum degree of opening of the aforementioned conductance valve, respectively, to ascertain a first control range for the gas supply flow rate supplied to the chamber and a second control range of the internal pressure of the chamber; and

(c) regulating the first gas flow rate, while supplying gas from the gas supply facility, so that the first gas flow rate reaches the gas supply flow rate corresponding to a desired set the internal pressure of the chamber that is to be set, determined from the relationship between the gas supply flow rate and the internal pressure of the chamber in order, to maintain the chamber at the desired set pressure.

7. (Currently Amended) A method for an internal pressure control of a chamber as claimed in Claim 6, the method further comprising the steps of:

(d) ~~supplying the~~supplying a chamber connected to both ~~the~~a gas supply facility and an exhaust system comprising the exhaust line having ~~the~~a conductance vale; and

(e) ~~maintaining the~~an internal pressure of the chamber at ~~the~~a set pressure by regulating both ~~an~~opening of the conductance valve of the exhaust system and ~~the~~a supply flow rate of the gas supply facility.

8. (Cancelled)